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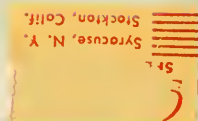
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STUDY OF ANATOMY
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HISTORICALLY AND LEGALLY CONSIDERED:

A PAPER READ AT THE MEETING OF THE AMERICAN SOCIAL SCIENCE
ASSOCIATION, SEPTEMBER 9, 1880,

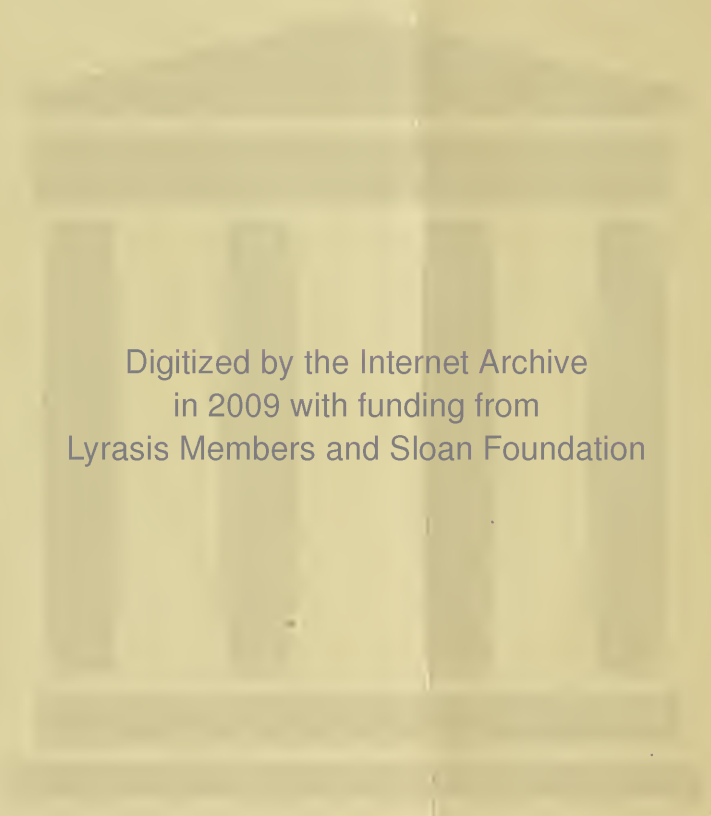
BY

EDWARD MUSSEY HARTWELL, M. A.,
FELLOW OF THE JOHNS HOPKINS UNIVERSITY, BALTIMORE.

REPRINTED FROM THE JOURNAL OF SOCIAL SCIENCE.

BOSTON:

TOLMAN & WHITE, PRINTERS, 383 WASHINGTON STREET.
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THE STUDY OF ANATOMY, HISTORICALLY AND LEGALLY CONSIDERED.

PART FIRST.

“ Practised architects, before they venture in thought to build a new edifice, to strengthen an old one, or restore a ruined one, first consider carefully and examine closely all the minute parts of such structures. So, physicians, indeed, before they endeavor to care for the human body and preserve it from the diseases which threaten it, ought to know very accurately, and to a nicety, all the parts of that body. Anatomy, the eye of medicine, furnishes such knowledge. Verily, the beginnings, the foundations, and the sources of origin of the medical art are, without the light and vision of anatomy, shrouded in thick darkness; wherefore, it is not inaptly called by Johannes Montanus, the alphabet of medicine.” So wrote Rolfincius, in his “ *Dissertationes Anatomicæ*,” published at Nuremberg, in 1656.

When we of today seek the origin of this “ alphabet of medicine,” we turn to the East, whence we are accustomed to derive the beginnings of all our arts; but we find the history of ancient anatomy to be almost a blank page. Priest, and law-giver, and people were all averse to anything like the dissection of the human body. The Egyptians, Hebrews, Greeks, Romans, and Arabs, alike regarded with abhorrence the mutilation of the dead. There is abundant proof of this in their laws and customs touching burial and defilement.

It is said that Democritus, of Abdera (460 B. C.), the friend of Hippocrates, was the first to dissect the human body. However that may be, it is as the Laughing Philosopher, and not as the Father of Anatomy, that he has influenced mankind. It was in what we fondly call “ Egyptian darkness,” and through the favor of an enlightened despot, that the first school of anatomy was founded at Alexandria, three hundred years before Christ, by Ptolemy Soter. “ Braving,” says Bouchut, “ all prejudices, and considering that the interests of science ought always to outweigh

those of the individual, Ptolemy authorized the dissection of human dead bodies, and himself set the example by beginning to dissect with the physicians gathered around him." Herophilus, and Erasistratus, his pupil, made the school of Alexandria famous and influential; their contributions to anatomy were genuine and considerable. No name worthy of mention, beside theirs, is to be found in the history of anatomy, until we come to that of Mondino, Professor at Bologna, who first publicly dissected in Europe, early in the fourteenth century. Yet, in the interval between the decadence of the Alexandrian school, which followed hard upon the death of its founders, and the rise of the Italian schools of anatomy, Aristotle, Galen, Celsus, and the Arabists, lived and wrote. George Henry Lewes declares that "Aristotle has given no single anatomical description of the least value." Daremberg, Galen's editor and translator, who says he has repeated every one of Galen's dissections, is convinced that he used only the lower animals. Celsus expressed himself as a disbeliever in the utility of human dissection. The medicine and surgery taught by the Arabs, at least so far as its anatomy was concerned, was borrowed from the Greeks.

Previously to the rise of human anatomy in Italy, Galenism, founded on the dissection of the lower animals, notably the ape, dominated the known medical world. Galen had written his "*De Usu Partium Animalium*," as a prose hymn to the Deity. The hierarchy commended his system, which was upheld as scientific orthodoxy, alike by political and religious authority; all research capable of contradicting his views, was condemned. The first Italian anatomists were quite content to expound Galen. One of the Arabists, Abdollaliph, criticised the slavish dependence of his contemporaries on books. He commended those who, like himself, repaired to burial grounds to study the bones of the dead; but he seems never to have dreamed that anything could be learned from a like scrutiny of the soft parts.

Galenism died hard, even in Italy where it was first attacked. How tenacious it was of life is well shown by Malpighi, who was born in 1628, the year that Harvey first published his "*Essay on the Motion of the Heart and Blood*." Harvey never saw the passage of the blood through the capillaries; Malpighi discovered those vessels and first demonstrated the flow of blood from the arteries into the veins. Malpighi writes: "In the meantime,

contentions being raised among studious men, especially the younger, both practical and theoretical, and the new doctrines growing daily into more credit, the senior professors of Bologna were inflamed to such a pitch, that, in order to root out heretical innovations in philosophy and physic, they endeavored to pass a law whereby every graduate should be obliged to take the following additional clause to his solemn oath on taking his degree, viz: 'You shall likewise swear that you will preserve and defend the doctrine taught in the University of Bologna, namely, that of Hippocrates, Aristotle, and Galen, which has now been approved of for so many ages; and that you will not permit their principles and conclusions to be overturned by any person, as far as in you lies.' "But," says Malpighi, "this was dropped and the liberty of philosophizing remains to this day."

It is stated that practical anatomy was taught at Padua, as early as 1151; and also, that in the code made for Sicily, by Frederic II., who died in 1250, there was a law which forbade any one to practice surgery unless he had been instructed previously in anatomy. The statement is also made that public courses in human anatomy were given during his reign; though no documents are cited to substantiate it. There is no dispute, however, that Mondino publicly dissected two subjects as early as 1315; and some writers give 1308 as the date.

We find many bulls of Popes and canons of Councils regarding the study and practice of physic and surgery by monks, from the time of the Council of Laodicea, in 366 A. D., when the priesthood were forbidden to study enchantment, mathematics, and astrology, and the binding of the soul by amulets, till 1215, when Pope Innocent III. is said to have fulminated an anathema against bloody operations in surgery. Although these utterances of the Church are interesting, we pass them by as being outside the scope of this paper.

The edict of Boniface VIII., however, published in 1300, affected the progress of practical anatomy, and is worthy of note. In 1299, Pope Boniface VIII. forbade, under pain of excommunication, any one to boil, cut up, or dry the bodies of the dead. Such an act he characterized as barbarous and abhorrent to Christian piety. Raynaldus, in whose "*Annales Ecclesiastici*, Lucae, 1749," the edict of Boniface is found, says that such customs "had prevailed in regard to those who, having undertaken a

pilgrimage to the East, died in foreign parts; and in order that their bones might be freed from flesh, and so easily carried about without the fear of corruption. And yet we know," he adds, "that the body of Saint Luke was boiled by his friends." It is hardly probable that Pope Boniface directed this edict primarily against anatomy. Edward I., of England, directed that the flesh should be boiled from his bones and that they should be carried to battle in a bag by his successor, in order to terrify his enemies. The story of Douglas and the heart of Robert Bruce is familiar to all. It is quite likely that Boniface launched his anathema in order to restrain such practices as these; nevertheless, his edict proved an obstacle to anatomical studies. Mondino apologizes for not making the most exact study of the bones of the skull, saying: "the bones beneath the basilar bone are not to be clearly distinguished, unless they be boiled; a sin which I have been accustomed to shun." Hyrtl, the famous German anatomist, holds that the edict of Boniface was in force till 1556, when the Emperor Charles the Fifth, the patron of Vesalius, ordered the question to be put to the theologians of the University of Salamanca, "Whether or not it could be allowed, without violating one's conscience and incurring the suspicion of criminality, to cut up human dead bodies?" "*Et respondisse Universitatem, Licere,*" says Rolfincius, quoting a still earlier writer.

That dissection was not universally banned by the Church before the Divines of Salamanca pronounced it lawful, may be seen from the action of Pope Sixtus IV., in 1482. In that year, in a letter addressed to the rector, doctors, and students of the University of Tübingen, Sixtus granted a special and full dispensation to those who should receive the cadavera of certain malefactors executed for capital crimes in accordance with the civil law: "*per justitiam secularem,*" is the phrase in the original. They were given permission to dissect and dismember these dead bodies, inasmuch as they desired thereby to render themselves learned and skilful in the art of medicine, provided they would bury in the customary manner such condemned men after they should be dissected and dismembered.

It is claimed that in Prague, as early as the foundation of the University in 1348, the executioners were enjoined to deliver the cadavera of malefactors to the school of medicine. Duke Albrecht IV. imported an Italian anatomist, named Galeazzo, to introduce

the art of dissection into Vienna; where the first anatomical demonstrations before the medical faculty were made in 1404.

In France, as early as 1376, Louis of Anjou permitted the surgeons of Montpellier to take the body of an executed criminal annually for dissection. Charles the Bad, King of Navarre and Lord of Montpellier, ratified this grant in 1377; as did King Charles VI. in 1396; and King Charles VIII. in 1484, and again in 1496. A similar grant was made in Scotland in 1505, as we learn from the following extract taken from the Charter, given by the Town Council of Edinburgh to the Surgeons' Company, July 1, 1505, and ratified by King James IV. in the following year: "And als that everie man that is to be maid frieman and maister amangis ws be examit and previt in thir poyntis following THATT IS TO SAY That he know anatomea nature and complexiounn of every member In manis bodie And in lyke wayes he know all the vaynis of the samyn thatt he may mak flewbothomea in dew tyme. . . . And that we may have anis in the yeir ane condampnit man after he be deid to mak anatomea of qubairthrow we may haf experience Ilk ane to instruct others And we sall do suffrage for the soule." By Act of Parliament, 32 Henry VIII., cap. 42, in 1540, it was granted to the Barber-Surgeons of London to take "yearly forever . . . four persons condemned adjudged and put to Death for Felony by the due Order of the King's Highness, . . . and to make Incision of the same dead Bodies, or otherwise to order the same after their said Discretions at their pleasures, for their further and better Knowledge, Instruction, Insight, Learning, and Experience in the said Science or Faculty of Surgery."

Vesalius, a Fleming, born in 1514, did more than all his predecessors to overthrow Galenism and place medicine upon a rational basis, and well deserves his title of the Father of Modern Anatomy. Yet, despite the concessions we have noticed made by prelates, kings and parliaments to the early anatomists, Vesalius and his students were obliged, in the words of Hallam, "to prowl by night in charnel-houses, to dig up the dead from the grave; they climbed the gibbet in fear and silence to steal the mouldering carcass of the murderer at the risk of ignominious punishment and the secret stings of superstitious remorse." Vesalius began to dissect while a youth in his teens. For a time he studied under the famous French anatomist, Jacques Du Bois, who demonstrated

the anatomy of Galen on the carcasses of dogs. But Vesalius forsook Paris for Italy, drawn thither by the reputation of the schools whence Leonardo da Vinci and Michael Angelo derived their knowledge of human anatomy. Before he was twenty-eight, as has been well said, "Vesalius discovered a new world," and held at one time the professorship of anatomy in the universities of Pisa, Padua and Bologna. He died the victim of the Spanish Inquisition. His inspection, with the consent of the relatives, of the body of a Spanish grandee, whose heart feebly contracted under the knife, brought him before the Inquisition, and would have led him to the stake but for the intercession of the King. Compelled to journey to Jerusalem by way of penance, Vesalius was shipwrecked, in 1564, on the island of Zante. It is said that he there starved to death, and that unless a liberal goldsmith had defrayed the funeral charges, the remains of the greatest anatomist the world had seen would have been devoured by birds of prey.

The Italian schools under Vesalius and his successors, Fallopius, Columbus and Fabricius, exerted a wide and potent influence upon European medicine. This influence was sooner felt and more marked in France, Germany and Holland than in England and Scotland. But we shall confine our attention for the present to the history of anatomy in Great Britain; inasmuch as in the development of anatomy in America, the influence of Edinburgh and London is more readily traced than that of Paris and Leyden.

Twenty-five years after the passage of the Act of 32 Henry VIII., Queen Elizabeth granted to the College of Physicians, of London, the bodies of four felons executed in Middlesex, "that the president or other persons appointed by the college might, observing all decent respect for human flesh, dissect the same." In 1663, Charles II. increased the number of felons' bodies, annually granted to the physicians, to six. The Act of 22 George II., c. 37, 1752, required the dissection or hanging in chains of the bodies of all executed murderers in order that "some further Terror and peculiar Mark of Infamy might be added to the Punishment of Death." The provision of this Act regarding the dissection of murderers remained unrepealed till the passage of the so-called Warburton Anatomy Act, in 1832, while the provision regarding the hanging of a murderer's body in chains remained in force till 1861, when it was repealed.

These were the only legalized sources for the supply of anatomi-

cal material in England prior to 1832. Such provisions might, at first sight, seem generous and ample, yet they were not. We find Dr. William Hunter, in 1763, in vain asking of the King a grant of land sufficient for the site of an anatomical school in London, which he proposed to endow with something like £7,000, and one of the finest anatomical collections in Europe. In his memorial to the Earl of Bute, Hunter writes: "Of the very few who profess or teach this art in any part of Great Britain, London excepted, there are none who can be supplied with dead bodies for the private use of students. They can with difficulty procure only so many as are absolutely necessary for the public demonstrations of the principal and well-known parts of the body. Hence it is that the students never learn the practical part, and the teachers themselves can hardly make improvements, because they cannot have subjects for private experiments and enquiries. Anatomy was not upon a much better footing, even in London, till the year 1746."

In 1832, Parliament passed the Warburton Anatomy Act, which is still in force throughout Great Britain and Ireland — in all its essential features. To understand its significance and that of "Burking," which really caused Parliament to enact it, we must glance at the Edinburgh School of Anatomy.

We have already noticed the grant of anatomical material contained in the charter of the Surgeons' Company, made in 1505. The beginning of the Edinburgh Anatomical School was in 1694; when the Town Council, on the 24th of October, in response to the petition of Alexander Menteith, granted him "any vacant, waste room in the correction house, or any other thereabouts belonging to the Town." Menteith also obtained a grant of "those that dye in the correction house; and the bodies of fundlings that dye upon the breast." The Surgeons' Company were granted, nine days later, "the bodies of fundlings who dye betwix the tyme that they are weaned and their being put to schools or trades; also the dead bodies of such as are stiflet in the birth, which are exposed and have none to owne them; as also the dead bodies of such as are *felo de se* and have none to owne them; likeways the bodies of such as are put to death by sentence of the magistrat, and have none to owne them." The anatomical theatre of the surgeons was reported finished to the Town Council, December 17, 1697. The Council ratified its grant of 1694, and, the same day, the surgeons chose a committee "to appoint the method of public

dissections, and the operators." In 1705, the Council gave £15 salary to Robert Elliott, the first Professor of Anatomy in Edinburgh. In 1720, the Town Council elected Alexander Monro, *primus*, Professor of Anatomy. In 1725, he removed from Surgeons' Hall to the University buildings, because of the violence of a mob which had attempted to demolish the Surgeons' Theatre, on account of the supposed violation of graves. In 1722, the apprentices of the Surgeons' Company were obliged, in their indentures, to subscribe to "an obligation that they would altogether avoid raising the dead."

Under the Monros, father, son and grandson, who held between them the University Chair of Anatomy from 1720 till 1846, the school became widely famous. Many of the early American physicians and anatomists studied at Edinburgh; where, early in this century, there were several extramural private schools of anatomy. Of these, that of Dr. Robert Knox was the most famous and frequented. In the winter of 1828-29, he had a class of 505: the largest in Europe.

For years the demand for anatomical material had exceeded the legal supply in Great Britain. As early as 1826, Parliament was petitioned, but to no purpose, to give aid and protection to the anatomists, — who were forced to depend on the resurrection men for subjects. Bodies often brought £10 each, in Edinburgh and London; in one instance a subject was sold for £30. When the home supply ran short, the Scotch anatomists were furnished with stolen bodies from England, Ireland, and even France. "The increased demand and higher pay for material," says Lonsdale (Knox's biographer), "generated sad recklessness and brutality. Quarrels arose over the spoils; the jealousy of rival factions of the different schools, and the frequent attempts to outwit each other, led to personal denunciations and a fearful publicity." In response to numerous petitions from the medical profession, a "Select Committee of the Commons," to inquire into the hindrances to the study of anatomy, was appointed April 22, 1828. Its report was rendered on the twenty-second of July, following. In 1788, the Court of King's Bench decided, in the first reported case of the sort, that it was a misdemeanor at common law to carry away a dead body from a church-yard, although for the purpose of dissection, as being an offence *contra bonos mores* and common decency. The Select Committee stated in its report, which was favorable to

the petitioners, that, under the law as then interpreted, there was scarcely a student or teacher of anatomy in England who was not indictable for a misdemeanor; and also that medical men "were liable in a civil action to damages for errors in practice, due to professional ignorance; though at the same time they might be visited with penalties as criminals for endeavoring to take the only means of obtaining professional knowledge." It was not until the following year, when the complaints of the anatomists and the report of the committee had been emphatically endorsed by the "Burking" horrors of Edinburgh, that leave was obtained, on the fourth of May, to bring in a "Bill, to Prevent the Disinterment of Dead Bodies, and for the Better Regulation of Our Schools of Anatomy."

On the second of November, 1828, it was noised about in Edinburgh that a woman had been murdered on All Hallow Eve for the sake of her body, which was found in the dissecting room of Dr. Knox. In the investigation which followed it was discovered that William Hare, the keeper of a low lodging house in the West Port, and one of his lodgers, William Burke, had, within less than a year, committed sixteen murders, and disposed of the bodies of their victims to the teachers of anatomy. The "Burke" method was to suffocate the victim, already dead drunk. Throttling was not resorted to: the nose and mouth were kept tightly closed, and the smothering was soon effected. It was impossible to connect Knox with these villains in any way, except as a receiver of stolen goods for the benefit of the public. Hare turned State's evidence, but Burke was found guilty, hanged and dissected. His skeleton adorns the Anatomical Museum of the University of Edinburgh.

The Bill alluded to above was brought into Parliament May 5, 1829, but was thrown out in the House of Lords a month later. It was not until August 1, 1832, after a long discussion in which Sir James Mackintosh and Mr. Macaulay took part, that the "Warburton Bill for Regulating Schools of Anatomy" was enacted. At this distance in space and time the deliberateness of Parliament seems a trifle strained in the face of such facts as we have stated; but one of the chief glories of the British Constitution is its slow growth, we believe.

The Warburton Act is, with some trifling amendments, still in force. Its effect has been to protect the sepulchres of the dead

and, in the long run, to furnish an adequate supply of subjects. As, however, Massachusetts anticipated Great Britain by more than a year in legalizing anatomy, in a law based upon the same principles as those embodied in the English Act, we forego any special consideration of the terms and provisions of the latter.

PART SECOND.

ANATOMY IN AMERICA.

The earliest utterance in America, in recognition of the importance of anatomical studies, seems to have been made in Massachusetts. In "The Cleare Sun-Shine of the Gospel Breaking upon the Indians in New England" is found a letter dated "Roxbury, 24 September 1647," from John Eliot to the Rev. Thomas Shephard of "Cambridge in New England." The Apostle declares of the Indians that "all the refuge they have and relie upon in time of sickness is their Powwaws; so that it is a very needfull thing to informe them in the use of Physick, and a most effectuall meanes to take them off from their Powwawing. Some of the wiser sort I have stirred up to get this skill; I have showed them the Anatomy of man's body, and some generall principles of Physick. I have had many thoughts in my heart that it were a singular good work, if the Lord would stirre up the hearts of some or other of his people in England to give some maintenance toward some Schoole or Collegiate exercise this way, wherein there should be Anatomies and other instructions that way" It is unlikely that the Apostle Eliot added dissections to his lectures on "the Anatomy of man's body;" for later in the same letter he deplores the fact that "our young students in Physick have onely theoreticall knowledge, and are forced to fall to practice before ever they saw an Anatomy made," and says, "We never had but one Anatomy in the Countrey, which Mr. Giles Firman (now in England) did make and read upon very well."

The "first Anatomy in the Countrey" was doubtless made without the warrant of legal enactment; certainly the majority of dissections since then have been so made. The first statutory provision regarding anatomy in America seems to be the Massachusetts Act of 1784, by the terms of which the bodies of those killed in duels and of those executed for killing another in a duel

might be given up to the surgeons "to be dissected and anatomized." In 1831 Massachusetts anticipated all her sister States, and England as well, by legalizing the study of "anatomy in certain cases."

In 1690, Governor Slaughter, of New York, died suddenly, under circumstances which excited suspicions of poisoning. Dr. Johannes Kerfbyle, assisted by five physicians, made a post-mortem examination of the body. The council ordered £8 8s. to be paid the surgeons for this examination. This is usually cited as the first recorded autopsy in America.

It is recorded that Dr. John Bard and Dr. Peter Middleton, of New York city, in 1750 injected and dissected the body of Hermannus Carroll, an executed criminal, "for the instruction of the young men then engaged in the study of medicine." This was thirty-nine years before the State of New York legalized the dissection of the bodies of malefactors executed for arson, burglary, or murder. Though Pennsylvania passed no anatomy Act until 1867, the first American medical school was organized in Philadelphia in 1765, by Drs. Morgan and Shippen, natives of that city. Dr. William Shippen, Jr., a pupil of John Hunter, gave, in 1762, a systematic course of lectures on anatomy. The fee for this course, which is said to have embraced sixty lectures, was put at "five pistoles; and any gentlemen who incline to see the subject prepared for the lecture and learn the art of dissecting, injecting, etc., are to pay five pistoles more." This first course of lectures by Dr. Shippen, which was attended by twelve students, is usually termed the first full and scientific course of anatomical lectures given in America; although Dr. Cadwallader, as early as 1751, made dissections for the benefit of the physicians of Philadelphia, and Thomas Wood, surgeon, in 1752 advertised in the New York papers "a course on osteology and myology in the city of New Brunswick, N. J.," to be followed, in case of proper encouragement, by a course in angiology and neurology, and a course of operations on the dead body. It should also be noted that Dr. William Hunter, educated at Edinburgh under the elder Monro, who came to America in 1752, gave lectures on anatomy and surgery in Newport, R. I., in the years 1754, 1755, and 1756.

Shippen's courses were so successful that in 1765 the Medical College of Philadelphia was organized with two professorships. Dr. Shippen held the chair of "anatomy and surgery;" that of

the "theory and practice of physic" was filled by Dr. John Morgan.

In New York and Massachusetts, as in Pennsylvania, the anatomists were the founders of the first medical schools. The medical department of King's, now Columbia, College was organized in New York in 1767. Dr. Samuel Clossy, an Irishman, who began his course of lectures on anatomy in New York in 1763, was chosen the first professor of anatomy in King's. Dr. John Warren, who from 1777 till the close of the Revolution had served as surgeon-in-chief of the military hospitals at Boston, gave a private course of dissections to a class of medical students in that city in 1780. In the following year he gave a public course of anatomical lectures, the success of which led to the organization of the Harvard Medical School in 1782. Dr. Warren was the first professor in the new school. He was for many years its presiding genius, and held the professorship of anatomy and surgery till his death in 1815. It was chiefly through the efforts of Dr. Nathan Smith, that the Dartmouth Medical School was founded, in 1797. Dr. Smith was appointed "to deliver public lectures upon Anatomy, Surgery, Chemistry, *Materia Medica*, and the Theory and Practice of Physic." To the Dartmouth school is usually assigned the fourth and final place on the list of American schools of medicine founded before 1800.

Thanks to the efforts of Thomas Jefferson, in 1779, Virginia can claim a place on that list for the medical department of William and Mary College. "I effected in that year, 1779," he says in his autobiography, "a change in the organization of that institution by abolishing the Grammar school and the two professorships of Divinity and Oriental languages, and substituting a professorship of Law and Police, one of Anatomy, Medicine, and Chemistry, and one of Modern Languages." In 1778, Mr. Jefferson drew up a "Bill proportioning Crimes and punishments in Cases heretofore capital." Among its provisions was the following: "If any person commit petty treason, or a husband murder his wife, a parent his child, or a child his parent, he shall suffer death by hanging, and his body be delivered to Anatomists to be dissected." This bill was lost by the majority of a single vote, and Virginia lost the opportunity of passing the first American Act to legalize anatomy in even a small way. Virginia as yet has no anatomy act.

It was brought out in connection with the Salem witchcraft trials, in 1692, that "about seventeen years before," a jury had been impanelled upon the body of a man that died suddenly in the house of Giles Corey, and that the jury, among whom was Dr. Zerobabel Endicot, found the man "bruised to death, and having clodders of blood about his Heart." This would indicate that a post mortem examination was made in Massachusetts as early as 1675, fifteen years prior to that made of the body of Governor Slaughter, of New York, which is usually cited as the first recorded autopsy in America.

In December, 1692, the province of Massachusetts Bay incorporated the major portion of the English Act of 1604 against witchcraft among its statutes. The history and provisions of this Act are worthy of more than passing mention, because it contains not only the first American, but also the first English, statutory prohibition of the desecration of graves, and indicates full well that the belief in sorcery was a potent factor in popular prejudice against human dissections. In the preamble to an Act for "the appointing of Physicians and Surgeons," passed in 3 Henry VIII., 1511, it is recited that "so far forth were the Science and Cunning of Physick and Surgery practised by ignorant persons, that common Artificers, as Smiths, Weavers, and Women, boldly and accustomedly took upon themselves great cures, and things of great Difficulty, in the which they partly use Sorcery and Witchcraft, partly apply such medicines unto the Disease as be very noious and nothing meet therefor." The practice of witchcraft was first made a felony, punishable with death and the forfeiture of estate to the King, in 1541. This Act of the Parliament of 33 Henry VIII. was repealed six years later, in the first year of Edward VI.; but in 1565, the fifth year of Queen Elizabeth, it was reënacted with a saving clause, whereby dower was secured to the widow and inheritance to the heir of the felon. In 1604, the first year of James I., the Act of 5 Elizabeth, as well as that of the 9th Parliament of Mary of Scotland, was repealed, and an Act for "the better restraining and more severe punishing of witchcraft and dealing with evil and wicked spirits," was passed. It contained the following provision, new to the English law: "If any person shall take up any dead man, woman, or child out of his, her, or their grave, or any other place where the dead body resteth, or the skin, bone, or any other part of any dead person, to be employed

in any manner of witchcraft, enchantment, charm, or sorcery, whereby any person shall be killed, destroyed, wasted, consumed, pined, or lamed in his or her body, or any part thereof," every such offender "shall suffer pains of death as a felon, and shall lose the benefit of clergy and sanctuary."

This Act was cited formally in indictments drawn in Maryland in 1674, and in Massachusetts in the spring of 1692, and was acknowledged to be in full force in Pennsylvania in 1684. Massachusetts seems to have been the only colony to embody it in its laws. The Privy Council repealed the Act in 1695, because it was "not found to agree with ye Statute of King James the First whereby ye Dower is saved to ye Widow and ye Inheritance to ye heir of ye party convicted." The English Act remained unrepealed till 1736; and, so late as 1712, was declared to be in force in South Carolina. It does not appear that any "resurrectionist" was ever convicted under it in America. The first American Act to prevent the digging up of bodies for dissection, was the New York Act of 1789.

The Act of Massachusetts, passed in 1784, against duelling, is a noteworthy one, by reason of the fact that it contains the first authorization on the part of an American legislature of the dissection of the dead bodies of malefactors. The province had enacted laws for the prevention of duelling, in 1719 and 1729. That of 1719 provided penalties in the way of fine, imprisonment, and corporal punishment—any or all of them, at the court's discretion—for those convicted of engaging in, or challenging another to engage in, a duel. Under the Act of 1729, duellists and their accomplices were carried in a cart to the gallows with a rope about the neck, "and after sitting for the space of one hour on the gallows, with the rope about his neck as aforesaid," the offender was confined in the common jail for one year, and at the expiration of his sentence was required to find sureties for his good behavior for the succeeding twelvemonth. The Acts of 1729 and 1784, both denied Christian burial to the bodies of men killed in a duel. Moreover, it was provided in section 3 of the Act of 1784, "that when it shall appear by the coroner's inquest that any person hath been killed in fighting a duel, the coroner of the county where the fact was committed shall be directed and empowered to take effectual care that the body of such person so killed be immediately secured and buried without a coffin, with a stake drove through the body, at or near the usual place of execu-

tion, or shall deliver the body to any surgeon or surgeons, to be dissected and anatomized, that shall request the same and engage to apply the body to that use." Section 4 ordains "that any person who shall slay or kill another in a duel, and shall, upon conviction thereof on an indictment for murder, receive sentence of death, part of the judgment of the court upon such conviction shall be that the body be delivered to any surgeon or surgeons, to be dissected and anatomized, that shall appear in a reasonable time after execution to take the body and engage to apply it to that purpose."

If the Massachusetts legislators in 1784 had any intention of recognizing the needs of the anatomists, they failed to declare it, so that New York was the first State, by section 2 of its Act of 1789, to express the desire that "science might not in this respect be injured by preventing the dissection of proper subjects." It was not till the passage of the Massachusetts Act of 1831 that any State really undertook to "legalize the study of anatomy."

It is most likely that the provisions of the Act of 1784 touching dissection were designed to make duelling a specially infamous offence. This was quite in keeping with the English law regarding dissection. In 1752, the Parliament of 22 George II., in order that "some further Terror and peculiar Mark of Infamy might be added to the Punishment of Death," legalized the delivery of the bodies of executed murderers to the surgeons for dissection. This must have been the Act from which the royal governors derived authority to dispose of murderers' bodies in Massachusetts in the manner indicated in the following extract, taken from the *Life of Dr. John Warren*, by Edward Warren, M. D., page 230: "At this period [just prior to the Revolution] the governor had the disposal of the body of the criminal after execution. He might order its delivery to the man's friends, to any one to whom he himself assigned it, or to a surgeon. The prisoner, with the governor's assent, might make his own arrangements even for the sale of his body, if he was so disposed, either for the benefit of his family or his own brief enjoyment."

It is to be remarked that the Act of 1752 required the judges to add either dissection or hanging in chains to the death sentence of murderers, and that previously to 1832, when the Warburton Anatomy Bill was passed, there seems to have been no warrant in English law for any sort of bargain concerning a cadaver. The only legal mode of disposing of a dead body, excepting in case of

malefactors, was to bury it. Once buried, it was an indictable offence at common law for any person to exhume it, except by the leave of the proper officers.

The name of Warren is most intimately associated with the rise and progress of anatomical science in Massachusetts. Dr. John Warren while a student in Harvard College, where he graduated in 1771, was the leading spirit in forming a private anatomical society, composed of students. He says of it that "brutes were dissected and demonstrations on the bones of the human skeleton were delivered by the members." The Anatomical Society and the Spunker Club, to which there are frequent allusions in the Life of Dr. John Warren, seem to have been identical. Dr. Warren was the principal lecturer of the club. His most zealous associates were his classmate, Jonathan Norwood, William Eustis, class of 1772, and David Townsend and Samuel Adams, of the class of 1770. Adams was a son of Samuel Adams the patriot. Eustis, Adams, and Warren all studied medicine with an elder brother of the latter, Dr. and General Joseph Warren. Eustis, Warren, Townsend, and Adams became surgeons in the Continental army. Adams died in 1778. Eustis lived to become governor of Massachusetts in 1823. Warren was surgeon-general of the military hospital at Boston, from June, 1777, till the close of the Revolution, and was the first professor of anatomy and surgery of the Harvard Medical School, of which he was practically the founder.

Some notion of the methods of study of the Spunker Club may be gained from the following extracts from letters written by Eustis to Warren, prior to 1775: "This may serve to inform you that as soon as the body of Levi Ames was pronounced dead, by Dr. Jeffries, it was delivered by the sheriff to a person who carried it in a cart to the water side, where it was received into a boat filled with about twelve of Stillman's crew, who rowed it over to Dorchester Point. . . . When we saw the boat at Dorchester Point, we had a consultation, and Norwood, David, One Allen and myself took chaise and rode round to the Point, Spunkers like; but the many obstacles we had to encounter, made it eleven o'clock before we reached the Point, where we searched and searched, and rid, hunted, and waded, but, alas, in vain! There was no corpse to be found. . . . We have a —— from another place, so Church shan't be disappointed. P. S. By the way, we have since heard that Stillman's gang rowed him back from the Point up to

the town, and after laying him out in mode and figure buried him, God knows where! Clark & Co. went to the Point to look for him, but were disappointed, as well as we." No wonder that the same writer, in another letter, says, "Good heavens! to reflect on the continued bars we are meeting in our pursuits! It seems as if fate had placed medical knowledge *profunda in puteo, saxis et vix mobilibus submersa*."

It is not yet one hundred years since Dr. John Warren delivered the first course of public anatomical lectures ever given in Massachusetts, in compliance with a vote of invitation passed by the Boston Medical Society, November 3, 1781. It is scarcely fifty years since the Massachusetts Medical Society began to agitate the question of legalizing the study of anatomy. The Harvard Medical School, in the ninety-eight years of its history, has had but three professors of anatomy, namely, Dr. John Warren, professor of anatomy and surgery from 1782 till 1815, when he died; Dr. John C. Warren, professor of anatomy and surgery from 1815 to 1847, when he resigned; and Dr. Oliver Wendell Holmes, professor of anatomy, who, like the elder Warren, has held his chair thirty-three years.

Dr. John Warren's son and successor, Dr. John C. Warren, was three years old in 1781, the year the Massachusetts Medical Society was incorporated. Fifty years later, as one of the most prominent members of that society, February 2, 1831, he lectured before the members of the Massachusetts Legislature, in the representatives' chamber, on the Study of Anatomy, in accordance with a vote of the house of representatives, passed January 29, 1831. At the time of this lecture the anatomy bill, which became a law on the 28th of that month, was still pending.

No better testimony concerning the obstacles which beset the pursuit of anatomical science during those fifty years can be given than is found in the Biographical Notes of Dr. John C. Warren, from which we quote: "No occurrences in the course of my life have given me more trouble and anxiety than the procuring of subjects for dissection. My father began to dissect early in the Revolutionary War. He obtained the office of army surgeon when the Revolution broke out, and was able to procure a multitude of subjects from having access to the bodies of soldiers who had died without relations. In consequence of these opportunities he began to lecture on anatomy in 1781. After the peace there was great

difficulty in getting subjects. Bodies of executed criminals were occasionally procured, and sometimes a pauper subject was obtained, averaging not more than two a year. While in college I began the business of getting subjects in 1796. Having understood that a man without relations was to be buried in the North Burying-Ground, I formed a party. . . . When my father came up in the morning to lecture, and found that I had been engaged in this scrape, he was very much alarmed, but when the body was uncovered, and he saw what a fine, healthy subject it was, he seemed to be as much pleased as I ever saw him. This body lasted the course through. Things went on this way till 1807, when, with the coöperation of my father, I opened a dissecting-room at 49 Marlborough Street. Here, by the aid of students, a large supply of bodies was obtained for some years, affording abundant means of dissection to physicians and students. In the meantime, however, schools began to be formed in other parts of New England, and students were sent to Boston to procure subjects. The exhumations were conducted in a careless way. Thus the suspicion of the police was excited; they were directed to employ all the preventive measures possible, and watches were set in the burying-grounds. Thus the procuring of bodies was very much diminished, and we were obliged to resort to the most dangerous expedients, and, finally, to the city of New York, at a great expense of money and great hazard of being discovered. Two or three times our agents were actually seized by the police, and recognized to appear in court. One or two were brought in guilty, and punished by fine, but the law officers, being more liberal in their views than the city officers, made the penalty as small as possible. Constant efforts were necessary to carry on this business, and every species of danger was involved in its prosecution. . . . At that time scarcely any exhumation occurred without accidents of the most disagreeable and sometimes painful character. The record of them would make a black-book, which, though the odium of it should belong to few individuals, would do no credit to the enlightenment of Boston in the nineteenth century, and convey an idea of the state of feeling of a professor of anatomy on the approach and during the course of his anatomical pursuits.

“Sometimes popular excitement was got up, and the medical college threatened. I had reasons, at some periods, even to

apprehend attacks on my dwelling-house. Whenever the lectures approached, a state of incessant anxiety came with them. At length the pressure was so great that it was resolved to make an effort in the legislature, though with little hope of success."

If it were necessary, evidence to corroborate that of Dr. Warren might be indefinitely multiplied from the published and unpublished traditions of the elders. We content ourselves with the mention of one episode. About 1820 a highly respectable physician of Eastern Massachusetts, being detected in anatomical pursuits, was obliged to flee the State. In a distant community, which to this day has no anatomy Act, he won eminence as a teacher of anatomy and practitioner of medicine.

Dr. II. I. Bowditch, in his *Life of Amos Twitchell, M. D.*, treats fully of the condition of affairs in New England, when the law said, as he puts it, "A man who is found with a body in his possession for the purpose of dissection shall be considered guilty of a felony."

It was chiefly due to the efforts of the Massachusetts Medical Society that Massachusetts, in 1831, was induced to anticipate all English-speaking States in the enactment of a liberal law regarding anatomical science. The first definite action of the society seems to have been taken by the councillors February 4, 1829, when, on the motion of Dr. A. L. Peirson, of Salem, a committee, consisting of Drs. John C. Warren, E. Alden and A. L. Peirson, was appointed "to prepare a petition to the legislature to modify the existing laws which now operate to prohibit the procuring of subjects for anatomical dissections." Previous attempts, however, seem to have been made to weaken popular and legislative prejudices. Public attention had been forcibly called as early as 1820, in the case of the physician above alluded to, to the unsatisfactory working of the law of 1815, "to protect the sepulchres of the dead." It is said that a year or two later a private teacher of anatomy, in Boston, found one morning on his dissecting-table the body of a prominent actor, then recently deceased. The anatomist, who had been a particular admirer and friend of the actor's, caused the body to be returned to the tomb, under Trinity Church, from which it had been stolen, and acquainted the authorities with the circumstance. This occurrence seems never to have been made public, but the physicians and authorities agreed that the laws must be amended. Doubtless they concluded that the public must be enlightened before anything could be gained from the

legislature, for, in 1825, Wells and Lilly reprinted in pamphlet form an article on "The Importance of the Study of Anatomy, with some Additional Remarks," from the *Westminster Review* of 1824. Some writers allude to efforts before the legislature in 1828, but we have found no documentary proof of any legislative action previous to that in the house of representatives, February 3, 1829, when the Committee on the Judiciary was instructed, on motion of Mr. F. A. Packard, of Springfield, "to inquire into the expediency of making any farther legal provisions to protect the sepulchres of the dead from violation." In accordance with these instructions, on February 14th the Committee reported a bill, which, on being read a second time, February 24th, was indefinitely postponed on the motion of Mr. Thomas B. Strong, of Pittsfield. The secretary of the Massachusetts Medical Society at this time was Dr. George Hayward. In the *North American Review* for January, 1831, he says that this proposition, above noted, to mitigate the severity of the law "was hardly listened to with decency; members seemed anxious to outdo each other in expressions of abhorrence; and the bill was not even allowed a second reading."

History repeats itself in the case of anatomy Acts no less than in other departments. In 1866, an anatomy bill, after passing the Pennsylvania house of representatives, was withdrawn from the senate of that State, because a too influential member of that body objected to it as being "unworthy of the age in which we live." The next year, however, when it was made manifest that "the bodies of distinguished legislators themselves, after a life full of good works, were no longer safe in their graves," both senate and house passed "An Act for the promotion of medical science, and to prevent the traffic in human bodies, in the city of Philadelphia and the county of Allegheny."

At the annual meeting of the Fellows of the Massachusetts Medical Society, June 3, 1829, the committee of three, appointed by the councillors in February, reported that it was inexpedient to act upon the petition prepared by them to be presented to the legislature. After a full discussion of the report it was agreed to refer the whole subject to a committee of nine. The committee was requested to report at the October meeting of the councillors; and the councillors were authorized to take such measures as they might deem necessary in behalf of the society. The following named gentlemen were chosen to serve on this committee: Drs. A.

L. Peirson, of Salem; John C. Warren, John D. Wells, John Ware, William Ingalls and George C. Shattuck, of Boston; Nathaniel Miller, of Franklin; Nehemiah Cutter, of Pepperell, and John Brooks, of Bernardston. When the councillors of the society met, October 7th, the committee reported that on September 1st a circular letter to the Fellows of the society had been issued, "with a view of advancing the objects proposed by their appointment," and they recommended to the councillors to cause a petition to be prepared and presented at the winter session of the general court. It was voted to continue the committee, and to authorize it to incur an expense not exceeding one hundred and fifty dollars.

A circular letter, dated Salem, September 1, 1829, and signed by all of the committee excepting Dr. Miller and Dr. Cutter, solicits the aid of every influential member of the society in removing the popular prejudice against dissection, "especially as it exists in the minds of members of the legislature." The points upon which it was intended to rely in the proposed petition to the legislature, are as follows: "(1.) Anatomical knowledge is absolutely necessary in all branches of our profession. (2.) This knowledge can only be acquired by dissection. (3.) So far as the poor are concerned, it is for their especial benefit that all physicians should learn anatomy thoroughly. (4.) It is believed that the diseases and lameness of many paupers have passed from a curable to an incurable condition for the lack of surgical skill, which could only have been derived from a knowledge of practical anatomy. (5.) All lovers of good morals must feel desirous to prevent the growth of a body of people who make it a business to violate the sepulchres of the dead. (6.) The public, as a body, have a greater degree of interest in this matter than even physicians." The Fellows are urged to lay the subject before the members of the legislature, with whom they may be acquainted, and to inform the committee, before October 1st, concerning their own views and the course of public opinion in their vicinity.

The petition authorized by the councillors, and alluded to by the committee in the circular, which was probably written by Dr. Peirson, seems to have taken the shape of an "Address to the Community on the necessity of legalizing the Study of Anatomy: By order of the Massachusetts Medical Society." In the address, which covers twenty-seven pages, and bears the imprint of Perkins & Marvin, Boston, 1829, the points of the Salem circular are amplified

and enforced. The address is noticed in the *American Journal of Medical Sciences*, vol. vi. p. 210, by Dr. W. E. Horner, of Philadelphia, who characterizes it as "a candid and open exposition of difficulties, and of the means of relieving them." "It is," he says, "a statement directly to the point, and must have weight, if common sense and common philanthropy are to be arbiters. It proposes that the legal restrictions upon dissections shall not apply in the case of individuals who have no living relatives, and who have been kept at the public expense." Dr. George Hayward declares that "this address made a deep impression on the thinking part of society, and wrought a marvellous change in public opinion." At their meeting, on February 3, 1830, the councillors of the Medical Society authorized the committee of nine to print a new edition of not more than ten thousand copies of the Address to the Community.

Meanwhile, on January 22d, in accordance with a motion made by Mr. Mason, of Boston, in the house of representatives, the committee on the judiciary had been instructed to inquire into the expediency of farther legislation for the protection of sepulchres. The judiciary committee consisted of Messrs. L. Saltonstall, of Salem; L. Shaw, of Boston; Newton, of Worcester; Mann, of Dedham; and Whitman, of Pembroke. Mr. Saltonstall, the chairman, made a detailed report February 25, 1830, in which it was recommended that the farther consideration of the matter be referred to the first session of the next legislature. The report lay upon the table till March 11th, when it was taken up, accepted, and ordered to be published in the "newspapers which print the laws of the commonwealth." This report is printed as "No. 51, House Documents, pp. 756-764, Documents of Massachusetts, Political Year 1829, and January Session 1830." The report is eminently liberal in spirit, and judicial in tone, and is written clearly and concisely. Although the committee reach the conclusion that the existing law, that of 1815, is unfair to the medical profession and inconsistent with the best interests of the community, they refrain from proposing any alteration of it, believing that public opinion has not become sufficiently enlightened to warrant such action.

Governor Levi Lincoln, in his address to the legislature, delivered May 29, 1830, at the opening of the summer session, declares that the frank and manly representation by the medical faculty of the embarrassments and difficulties of acquiring a knowledge of anatomy

deserves the most respectful regard. "It may be," he says, "that this subject is of a nature too delicate for direct legislation; but the public mind should be instructed in its interesting importance. Let it be shown that the knowledge which is sought in the science of anatomy concerns all the living, and that without it the accidents and ills of life which art might remedy are beyond relief. Let the reason of men be addressed, and prejudice be dispelled by information and the force of argument. It may then come to be understood that a community which demands the exercise of skill and denies the means to acquire it, which punishes ignorance and precludes the possibility of removing it, is scarcely more compassionate than that Egyptian harshness which imposed the impracticable task in cruel oppression of the inability to perform it. . . . It is not my purpose to propose any definite act for your adoption. I would commend the subject only to the discreteness of your counsels."

On May 31st, Mr. John Brazer Davis, of Boston, moved in the house of representatives, and it was ordered, "That so much of his Excellency the Governor's speech, as relates to a modification of the laws in relation to the study of anatomy, be referred to a select committee." The gentlemen chosen to act as such committee, were Messrs. J. B. Davis, of Boston, G. Willard, of Uxbridge, A. Hutchinson, of Pepperell, L. W. Humphreys, of Southwick, and J. B. Flint, of Boston. The day after their appointment, the committee reported through Mr. Davis, that the subject be referred to the next session of the legislature, and the report was accepted.

On the 1st of January, 1831, the select committee made its report, and brought in a bill "more effectually to protect the sepulchres of the dead and to legalize the study of anatomy in certain cases." The report was written by the chairman of the committee, Mr. Davis. The report constitutes No. 4 of the house documents for 1831, and in the printed copy is dated January 6. Pages 3-82 inclusive are devoted to the report proper; the bill is found on pages 83-86; the list of documents accompanying the report is found on page 87; and the documents themselves fill twenty-nine pages more.

This is altogether the most exhaustive document on the subject that we have seen; inasmuch as the committee undertakes to consider, in "all its aspects, the subject committed to them, and to present not only the results, but the details, of their researches

and reasonings on it." We shall not undertake to outline it within the limits of a latter-day paper, in face of the fact that twenty pages octavo are taken up in tracing "the progress of anatomical science from the first rude attempts of the Greeks, through a slow progress of near two thousand years," before it is attempted to show, in nearly thirty-six pages more, that "the study and knowledge of anatomy are essential to the safe and successful practice of medicine." We unhesitatingly recommend this "faithful compilation of the facts and reasonings of distinguished men, who have devoted their attention to this subject," to the consideration of those who have to snatch time from the practice of medicine to get up "inaugural addresses" for medical colleges in States still fifty years behind the times. They will find Dr. Southwood Smith's "Uses of the Dead to the Living," and the "Report of a Select Committee of Parliament on the Hindrances to the Study of Anatomy, London, 1828," poor beside, and because of, the riches of this report of the Davis committee.

The legal status of dissection is noticed in the report as follows: "In 1815 a law was passed for the protection of the sepulchres of the dead, which punished the exhumation of any dead body or the knowingly and wilfully receiving, concealing, or disposing of any such dead body, by a fine of not more than one thousand dollars, or imprisonment for not more than one year. Before the passing of this Act, several cases at common law were brought before the Supreme Judicial Court, in all of which, where there was a conviction, the party was punished. Where it appeared that the exhumation was for subjects for dissection, a small fine was imposed. The last case of this kind was against a now eminent physician, then of Essex county, in which several important law points were raised; but the case does not appear to have been reported. Under the statute there have been several prosecutions, convictions, and punishments. With truth it may be said that in Massachusetts a student or teacher of anatomy cannot be found who is not indictable under the statute of 1815."

"While the law of this Commonwealth is thus severe against the exhumation of dead bodies, another law has been passed, by which every practitioner of medicine is required to obtain a degree at Harvard University, or license from the Medical Society, before he can maintain an action for debt for his professional services. The license or degree is given on examination, and one of the

prerequisites for this examination is that the applicant shall have gone through such a course of dissection as shall give him a minute knowledge of anatomy.

“The only legalized mode of supplying subjects for dissection is the sentence or order of the Supreme Judicial Court of this State and of the Circuit Court of the United States in capital convictions within their respective jurisdictions. The insufficiency of this supply may be inferred from the statements of the secretary of the Commonwealth and of the clerk of the United States District Court. The former states, in answer to inquiries addressed him by the chairman of this committee, that the whole number of executions or suicides of convicts from January 1, 1800, to December 31, 1830, is but twenty-six—less than one a year. The clerk of the United States District Court, in reply to like inquiries, states that from the adoption of the federal constitution and the first organization of the federal courts down to the present time the whole number of executions and of suicides of convicts sentenced by that court in this district is but fourteen,—being about one in three years.”

February 26, the clerks of the two houses caused the enacted bill to be laid before Governor Lincoln, by whom it was approved and signed February 28, 1831.

The wisdom of the Medical Society and the select committee in acting on Governor Lincoln's recommendation that “the reason of men be addressed, and prejudice be dispelled by information and the force of argument,” is justified by the lack of opposition to the enactment of the Davis bill. The *Boston Advertiser* for February 11, 1831, notes the fact that on the day previous the Davis bill had passed to a third reading in the house by a vote almost unanimous. It adds: “No discussion took place touching the general provisions or tendency of the bill. Several amendments were offered relating to the details only. No one expressed any sentiments or opinions in opposition to the general features of the bill; but it received the approbation of all as a necessary step in the progress of improvement.” This shows a marked change in public opinion since 1829, “when,” to use the words of Dr. G. Hayward, “the proposition to mitigate the severity of the law against those engaged in dissection, was driven almost by acclamation from the legislature.”

Subsequent legislation has considerably modified the Act of February 28, 1831, as may be seen on consulting the Acts of April 1,

1834, March 26, 1845, May 10, 1855, and March 28, 1857. By the act of 1845, chapter 242, former Acts are simplified, amended, and improved. Section 1 provides that the overseers of the poor of any town, and the mayor and aldermen of any city, in the commonwealth, "shall, upon request, give permission to any regular physician, duly qualified according to law, to take the dead bodies of such persons as are required to be buried at the public expense within their respective towns or cities;" and also makes it "the duty of all persons having charge of any poorhouse, work-house, or house of industry, in which any person required to be buried at the public expense shall die, immediately to give notice thereof to the overseers of the poor of the town, or the mayor and aldermen of the city, . . . and the dead body of such person shall not, except in cases of necessity, be buried, nor shall the same be dissected or mutilated until such notice shall have been given and the permission therefor granted." According to section 2, "no such body shall in any case be surrendered if the deceased person, during his last sickness, of his own accord, requested to be buried." Excepting the repeal of sections 10 and 11 of the Revised Statutes of 1835, the Act of 1845 contains no other noteworthy new provision.

Chapter 323, Laws of Massachusetts, 1855, section 1, confers the powers and duties of overseers of the poor, as defined in chapter 242, Laws of 1845, upon "overseers and superintendents of State almshouses." Section 2 contains provisions new to the statute book. It reads: "Whoever buys, sells, or has in his possession for the purpose of buying, or selling, or trafficking in, the dead body of any human being shall be punished by fine of not less than fifty, nor exceeding five hundred dollars, or by imprisonment in the jail not less than three months, nor exceeding three years." The duty of giving immediate notice to the proper authorities of the death of friendless persons in the institutions under their control, devolved by the Act of 1845 upon the directors of houses of industry, etc., etc., is also, by the Act of March 28, 1857, laid upon the board of directors of public institutions of Boston.

So far as the writer has been able to learn, the Massachusetts legislature has enacted nothing of interest concerning anatomical science since 1857.

We have already noticed the provisions of the Act of 1784, concerning the dissection of dead duellists. The Act of 1784 was repealed March 15, 1805, when the following was enacted: . . .

“Justices of said court, before whom the conviction shall, in cases of murder committed in a duel, and in other cases, may, at their discretion, further sentence and order the body of such convict to be dissected and anatomized.”

In chapter 125, section 2, page 716, Revised Statutes 1835, we find no mention of “murder committed in a duel;” but we do find that “in every case of a conviction of the crime of murder, the court may, in their discretion, order the convict to be dissected, and the sheriff shall deliver the dead body of such convict to a professor of anatomy and surgery in some college or public seminary, if requested; otherwise it shall be delivered to any surgeon who may be attending to receive it, and who will engage for the dissection thereof.” The last revision of the Massachusetts statutes contains the above provision for the dissection of a dead murderer’s body, practically unchanged, excepting this saving clause: “unless his friends desire it for interment.”

The Massachusetts Anatomy Act of 1831, was productive of results in two directions; it lightened the burdens of the teachers of anatomy in that State, and it led to the enactment of similar laws in other States. Connecticut passed a liberal Act, modelled on that of Massachusetts, June 5, 1833, but repealed the same June 5, 1834. New Hampshire legalized anatomy in 1834, but rescinded its action in 1842. Michigan passed “an Act to facilitate the study of anatomy,” March 9, 1844, but repealed it April 7, 1851. New York is entitled to the place of honor next to Massachusetts, on the list of States which have consistently endeavored to promote anatomical science. The New York law of April 1, 1854, has never been repealed; on the contrary, it has been improved, notably by the amendatory Act of June 3, 1879.

Referring to the Massachusetts law of 1831, as amended in 1845, Dr. John C. Warren says: “The Superintendent of the House of Industry opposed great difficulties to the execution of this law; but he dying in 1847, an ample supply was obtained for the medical school afterwards, particularly in consequence of the influx of Irish paupers, and the great mortality among them.” Concerning the working of the same law; Dr. George Hayward, writing in 1855: “The supply has not been, perhaps, as great as could be wished; but, with the increase of population and pauperism, this objection will pass away.” We doubt, if in the judgment of the anatomists of the Harvard Medical School, “this objection”

has "passed away." We incline to the belief that "with the increase of population and pauperism," there has been, at least, an equal increase of demagogues, and that no class of men in Massachusetts have a more realizing sense than have its anatomists of the relation existing between eternal vigilance and the price of liberty.

The city government, of Boston, November 3, 1869, ordered "that permits be issued by the city clerk, until otherwise ordered, to the surgeons of the Harvard Medical School to take the dead bodies of such persons dying at Deer Island, or the House of Correction, the County Jail, or City Hospital, as may be required to be buried at the public expense." The statutory restrictions concerning the delivery of unclaimed bodies are embodied in the remainder of the ordinance. The anatomists of Baltimore, Washington, and New Orleans, might fairly consider this Boston ordinance a liberal one, for they are still obliged to dissect without legal warrant, or not at all. On the other hand, in Germany or France, where for years the dissecting rooms have been furnished with the unclaimed dead by the police, this ordinance would, unquestionably, be considered imperfect and illiberal.

It is unfortunate that American anatomists are forced to dance attendance upon public functionaries for "permits;" as they are thereby put in the false position of seeking as a personal favor what ought to be furnished them for the furtherance of the public welfare. Possibly, the time is not yet ripe for the Massachusetts anatomists to demand that the unclaimed dead of Springfield, Fall River, Worcester, Lowell, in short, the entire State, as well as of Boston, should be delivered to them at their dissecting rooms; but such a consummation is none the less devoutly to be wished. Massachusetts led off in legalizing the dissection of bodies required to be buried at the public expense. Would that she might inaugurate an administrative reform which should prevent the present wasteful decomposition of valuable material at the bottom of graves, and preclude the necessity which requires one who is bent on thoroughly learning practical anatomy in all its branches, to seek the anatomical institutes of Europe.

The legal status of anatomy in America, at the beginning of the century, is well illustrated by the Connecticut Acts of 1810. At the May session of that year, it was made punishable, by a fine of at least one hundred dollars and imprisonment in the county

jail for at least three months, for any one secretly to disinter the body of any deceased person for the purpose of dissection, or in any way to aid in so doing, or knowingly "to assist in any surgical or anatomical experiments therewith or dissections thereof." At the October session it was enacted that there should be a "medical institution of Yale College," one of whose four professors should teach anatomy, surgery, and midwifery; and that, as speedily as the college funds would allow, a collection of anatomical preparations should be provided.

The Massachusetts Act of 1784 only authorized dissection of dead duelists as a mark of infamy; therefore, the New York Act of 1789 must be considered as the first American anatomy law. This Act was passed the year after the famous "Doctors' Mob" in New York city, and is entitled, "An Act to prevent the Odious Practice of Digging up and Removing, for the Purpose of Dissection, Dead Bodies interred in Cemeteries or Burial Places." It comprises two sections. Section I. provides that any person convicted of removing any dead body from its place of sepulture, for the purpose of dissection or with intent to dissect, or of dissecting or assisting to dissect, such body, "shall be adjudged to stand in the pillory or to suffer other corporal punishment, not extending to life or limb, and shall also pay such fine and suffer such imprisonment as the court shall in their discretion think proper to direct." In Section II. it is further enacted, "In order that science may not in this respect be injured by preventing the dissection of proper subjects, that when any offender shall be convicted of murder, arson, or burglary, for which he shall be sentenced to suffer death, the court may, at their discretion, add to the judgment that the body of such offender shall be delivered to a surgeon for dissection." Massachusetts made the first considerable improvement on this New York Act when in 1831, it passed a statute authorizing, under certain restrictions, the delivery to the anatomists of the unclaimed bodies "of deceased persons required to be buried at the public expense."

Enactments similar to the New York Act of 1789, Section I., have since been passed by the following States: Alabama, Arkansas, California, Connecticut, Georgia, Illinois, Indiana, Iowa, Kansas, Kentucky, Maine, Massachusetts, Michigan, Minnesota, Mississippi, Missouri, Nebraska, New Hampshire, Ohio, Oregon, Pennsylvania, Rhode Island, Tennessee, Texas,

Vermont, Virginia, West Virginia, and Wisconsin. Of the above-mentioned States, Kentucky, Oregon, Rhode Island, Texas and West Virginia have no anatomy Acts; while Rhode Island, Texas, and West Virginia have no medical schools. The laws of nine States, namely, Colorado, Delaware, Florida, Louisiana, Maryland, Nevada, New Jersey, North Carolina, and South Carolina, are, so far as the writer has been able to learn, silent regarding grave-robbery. While the Territories of Dakota, Utah, Washington, and Wyoming have laws for the protection of sepulchres, the District of Columbia has no such law, although one was inserted into the proposed code of 1857, which failed of adoption.

The second section of the New York Act of 1789 has developed into the Acts of twenty-four States. The following-named States have legalized dissection: *Alabama, *Arkansas, California, *Colorado, *Connecticut, *Georgia, *Illinois, *Indiana, Iowa, *Kansas, *Maine, *Massachusetts, Michigan, Minnesota, *Missouri, *Nebraska, New Hampshire, *New Jersey, *New York, Ohio, Pennsylvania, *Tennessee, Vermont, and Wisconsin. The States whose names are starred in the above list make specific provision for the dissection of the bodies of certain deceased criminals, chiefly murderers. It is to be remarked that some of them make no other provision for anatomical science. The Acts of the following States may be termed fairly liberal: Arkansas, California, Connecticut, Illinois, Indiana, Iowa, Kansas, Massachusetts, Michigan, Minnesota, New Hampshire, New York, Ohio, Pennsylvania, and Wisconsin.

The Acts of Alabama, Colorado, Georgia, Maine, Missouri, Nebraska, New Jersey, Tennessee, and Vermont are illiberal.

In 1869 Maine enacted "that when any person convicted of crime dies or is executed in the State prison or any jail, the warden or keepers shall, on request, deliver his body to instructors in medical schools established by law." In February, 1876, capital punishment was abolished; so that at present in Maine it is legal to dissect only the body of a person who "requests during his life that his body may be delivered to a regular physician or surgeon for the advancement of anatomical science, after his death, unless some kindred or friend within three days" asks to have it buried; or the body of a convict who has not at any time requested to be buried, and whose friends and kindred fail for three days after his death to ask for his burial.

The statute of Tennessee, unless it has been repealed since 1871, is quite as liberal as that of Maine. It provides that no penalty shall "apply to regular physicians to whom the bodies of criminals are delivered pursuant to law, or to dissection of slaves by consent of their masters, or of other persons by consent of their relatives."

The New York Act of June 3, 1879, may be instanced as a type of the liberal class of American Acts. It reads: "It shall be lawful in cities whose population exceeds 30,000 inhabitants, and in counties containing said cities, to deliver to the professors and teachers in medical colleges and schools in this State, and for said professors and teachers to receive, the remains or body of any deceased person for the purposes of medical and surgical study: provided that said remains shall not have been regularly interred, and shall not have been desired for interment by any relative or friend of said deceased person within twenty-four hours after death; provided, also, that the remains of no person who may be known to have relatives or friends shall be so delivered or received without the consent of said relatives or friends; and provided that the remains of no one detained for debt, or as a witness, or on suspicion of crime, or of any traveller, nor of any person who shall have expressed a desire in his or her last sickness that his or her body may be interred, shall be delivered or received as aforesaid, but shall be buried in the usual manner; and provided, also that in case the remains of any person so delivered or received shall be subsequently claimed by any surviving relative or friend they shall be given up to said relative or friend for interment. And it shall be the duty of the said professors and teachers decently to bury in some public cemetery the remains of all bodies after they shall have answered the purposes of study aforesaid; and for any neglect or violation of this provision of this Act the party so neglecting shall forfeit and pay a penalty of not less than \$25 nor more than \$50, to be sued for by the health officers of said cities, or of other places, for the benefit of their department." An earlier law of New York forbids all traffic in subjects, or any use of them, except for anatomical purposes, under penalty of imprisonment in jail for not more than a year.

To summarize the legislation from 1789 to 1879, we may say that twenty-four States allow dissection; fifteen States have liberal anatomy Acts, while nine have illiberal ones; the laws of fourteen

States are silent regarding anatomy, excepting their laws on mal-practice; twenty-eight States forbid the desecration of graves, while the laws of ten States are silent regarding it; the laws of six States are silent touching both dissection and disinterment; Dakota only of the eight Territories allows dissection; four Territories forbid exhumation, and four have no enactment regarding it; twelve States and one Territory require the burial of *cadavera dissecta*.

The District of Columbia occupies a unique position among the capitals of civilized States in that the studies of its anatomists and the graves of its dead are alike unprotected by statutory enactments. The United States government sends Washington resurrectionists to jail when it can; but it has recently utilized in the examinations before the Navy Board, in the city of Washington, as many as twelve subjects, which could be procured by stealth only.

The most elaborate, the most liberal, and also the most stringent of the American anatomy Acts have been passed within the last five years. Those of Indiana, Ohio, and New York, were passed in 1879. The amended Iowa Act of March 26, 1880, is, so far as the writer can learn, the latest American anatomy Act.

The writer has endeavored to ascertain some facts as to the amount and cost of the dissection done in our American schools. There are no statistics on the matter. The following statement, based on the figures of the forthcoming report for 1878 of General Eaton, United States Commissioner of Education, and on such data as several of our prominent teachers of anatomy have kindly furnished, is put forth as a provisional one, in the hope that anatomists interested in the matter may coöperate to make it a full and accurate one. The total number of medical students of "all sorts" in the United States in 1878 was 11,837, showing an increase of 4894 since 1870. Of these 8286 were in attendance upon 915 instructors in 64 "regular schools," in 23 different States and the District of Columbia. In 9 States with liberal anatomy laws there were 22 schools, with 440 instructors and 4643 students. In 6 States and 1 district, with 14 schools and 141 instructors, there were 1337 students unprotected by law in the study of practical anatomy. In 8 States with illiberal or insufficient laws there were 27 schools, with 334 instructors and 2306 students. Kentucky, with 4 schools and 509 students, had

no law. Ohio, with 7 schools and 877 students, had an illiberal law. The District of Columbia had 158 students in 3 schools, also 1 President of the United States and 1 Congress ditto, but no anatomy law. Maryland, with 2 schools and 349 students, Louisiana, with 1 school of 147 students, and South Carolina, with 1 school and 71 students, had no anatomy Act, and no statute forbidding disinterment.

During the winter 1879-80, in seven medical schools, in five different States, there were 1566 students in attendance, of whom 1124 dissected, and 628 dissected more than one part. On the average the dissection of two parts is required for a degree. The average cost of "a part" was \$1.79, the extremes being \$3.50 and nothing. The demonstrator's ticket is not reckoned in the cost per part. There were used 392 subjects, at an average cost of \$14.42 to the schools. The extremes of price for subjects were \$3.00 and \$50.00. Usually 5 students dissect on a single subject, but in one school 8, and in another 10, students work on the same subject, alternately reading and dissecting. Of the 392 subjects used, not more than 36 were used by students in making surgical operations on the cadaver. Three of the seven schools claim to prescribe such a course of operations; but, judging from the number of students who took it, it is a medical rather than a legal prescription. Of the 1124 students who dissected, 465 using 133 subjects, were unprotected by law in so doing. On the basis indicated above, it is computed that the 8286 students of the regular schools in 1878 should have had at their disposal 2058 subjects. The official returns show that in France, in 1876, there were 3463 subjects at the disposal of 5624 students.

We have traced, thus far, the course of practical anatomy in America from the time of Giles Firmin till the close of the last century; and have considered in a more detailed way the development of what may be characterized as the most typical of the American anatomy acts, namely, the Massachusetts law. The same obstacles of prejudice and apathy which beset the anatomists of our younger States, have been operative in every land where anatomy has gained a foothold, since the days of Ptolemy. It would be interesting to attempt to analyze the popular prejudice against human dissection, which is a strange compound of pagan superstition, Christian materialism, and an innate aversion to the morals, aims, and manners of the average American medical

student. Such an attempt would take us too far afield. It is note-worthy, however, that anatomy has flourished chiefly under the rule of princes and prelates.. Anatomists have usually found republics, to say the least, ungrateful. We ought not to be surprised, therefore, when we consider American anatomy acts as a class, to find certain of our States no more enlightened in this regard than was France when Vesalius had to contend by night with vultures and prowling dogs for the carcase of the murderer or the suicide. The utmost help that several of our States give to anatomists is the occasional gift of the body of an executed malefactor; while others of them have not attained even to that mediæval stage of generosity.

The radical difference between European and American medical education results from the woeful lack, on this side of the Atlantic, of the well-considered, consistent, and responsible State supervision exercised over the teachers, students and practitioners of medicine in most European countries. In no department of medical education is this difference more strongly marked than in that of anatomy. It is equally clear whether we consider the training and attainments of the teachers, the amount of practical knowledge required of the students, or the laws regulating the supply of material in this department.

It is no less certain that the German and French schools of anatomy outrank the British, than that the latter outrank the Americans. While one might, from sources to be found in the libraries of Washington, Boston, and Baltimore, trace the development of the French laws concerning the cadaver; the writer finds it impossible to make any detailed statement, based on authentic documents, regarding the laws which regulate the organization and maintenance of the German institutes of anatomy. It may be stated, however, that an Act which should embody the best features of the best American Anatomy Acts, while it would compare favorably with the British laws, would fall far short of the French, in point of comprehensiveness and liberality; and it is safe to say that no medical school in the United States combines the rigid requirements of Vienna and Prague, of seventy years ago, with anything like the wealth of opportunity offered today at Paris and Bonn. One who should desire to become a thoroughly expert anatomist through the dissection of the dead rather than by mangling the living, would be justified in going from America to

Germany or France simply on grounds of economy. The depopulation of American medical colleges, owing to such a cause, need, however, not be feared; so long as the present public and professional indifference to ignorance of the fundamental facts of medical science obtains.

NOTE.—A bibliography of the authorities consulted in the preparation and revision of this paper would be too voluminous for the pages of this Journal. It is, however, proper to state that all references have been verified so far as I have had access to authentic sources. In studying the Massachusetts and New York Acts, I have been able to consult original documents to a considerable extent. I have not found a single comprehensive and accurate statement in regard to the American laws which relate to the dissection of the dead, or the desecration of graves. Such statements as I have made on those topics are based upon an examination of the Revised Statutes, and of the Session Laws of the States, as found in the Law Library of Congress at Washington. The results of this examination are less trustworthy than I could wish, for the reason that the publications of many States are badly indexed, and others are not indexed at all. Next to the Library of Congress, the Surgeon General's Office Library, at Washington, has afforded me more material than any other. I am under especial obligation to Dr. J. M. Toner, of Washington, and to Drs. J. Collins Warren and S. A. Green, of Boston, for helpful suggestions and valuable data. I would also acknowledge my indebtedness for kindly assistance to the gentlemen having charge of the following named collections of books: the Library of the Department of Education, Washington; the libraries of the Peabody Institute, the Maryland Historical Society, and of the Medical and Chirurgical Faculty of Maryland, in Baltimore; the Public Library, the Social Law Library, the Boston Athenæum, and the libraries of the Medical Library Association, the Massachusetts Historical Society, and the New England Historic Genealogical Society, in Boston.

BALTIMORE, March, 1881.

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